FACT SHEET

PART VI, POST-CLOSURE UNIT GROUP 2, 183-H SOLAR EVAPORATION BASINS

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UNIT DESCRIPTION

The 183-H Solar Evaporation Basins (183-H) were four concrete basins used for waste treatment and disposal. They were initially part of the water treatment facilities for the 100-H reactor. They were later used for storage and disposal of chemical wastes. The wastes underwent solar evaporation. After evaporation, the waste solids and sludges were isolated and removed

The 183-H basins received waste from 1973 to 1985. The last shipment of wastes was sent to the basins in November 1985. The last of the wastes were removed in September 1988. As part of closure, the waste, debris, and concrete structures were removed. Since contamination remained in the soil, a liner was placed over the contaminated soil, and the unit was filled with clean soil.

TYPE AND QUANTITY OF WASTE

The waste discharged to 183-H came from the 300 Area Fuel Fabrication Facility. The waste included solutions of neutralized acids. Nonradioactive dangerous waste was discharged to the basins on a non-routine basis.

The basins received a maximum of approximately 400,000 gallons (1,500,000 liters) of waste a year. The basins had a treatment design capacity of 700 gallons (2,700 liters) of waste a day treated by evaporation. They had a storage design capacity of 2,167,000 gallons (8,203,000 liters).

The 183-H Solar Evaporation Basins received mixed waste that consisted primarily of neutralized acid process waste. The basins also received various nonradioactive dangerous waste (listed discarded chemical products).

BASIS FOR PERMIT CONDITIONS

The U.S. Department of Energy (USDOE) submitted to Ecology a request for Final Closure Determination on May 22, 1996. In its response, Ecology noted that “Groundwater contamination associated with 183-H will be addressed in the final Record of Decision (ROD) for the 100-HR-3 Operable Unit.” This is consistent with regulations that allow information gathered for corrective actions to be developed under another authority [WAC 173-304-64620(4)].

Currently, the 100-HR-3 groundwater operable unit is being remediated under an interim action ROD, and no final ROD has been issued. USDOE submitted its closure certification for the 183-H unit on July 26, 1996.

Groundwater monitoring at the 183-H unit found that nitrate, chromium, and uranium exceeded concentration limits in downgradient wells. USDOE and Ecology agreed to include a corrective action program for groundwater in the Modification C (1997) to the Hanford Facility Dangerous Waste Permit. On May 13, 1997, Ecology accepted USDOE’s closure certification for the 183-H unit. The unit was then administratively moved into post-closure status. Clean closure of the unit was not achieved due to levels of fluoride and nitrate, remaining in the soil. Ecology noted that “Corrective actions for the contaminated groundwater attributable to 183-H will be coordinated with remedial action for the 100 HR-3 operable unit” pursuant to CERCLA.

Since Ecology’s acceptance of the closure certification, Ecology, USDOE, and the U.S. Environmental Protection Agency established a Hanford Site Groundwater Strategy. Ecology’s earlier “coordination” of corrective action at 183-H with remedial actions is consistent with the later groundwater strategy.

Post-closure groundwater monitoring at 183-H continues. USDOE continues to report groundwater contamination downgradient of 183-H. Hexavalent chromium has also been identified in the groundwater at the 100 H Area, but it remains uncertain whether the 183-H Basins are the source.

Ecology and the USDOE are developing data quality objectives for a Remedial Investigation/Feasibility Study (RI/FS) at the 100-D and 100-H Areas. The RI/FS will support a final remedy decision. Ecology has identified data quality objectives for the 183-H solar evaporation basins. In accordance with WAC 173-303-64620(4), Ecology will allow USDOE to use information that is adequate to support selection of a cleanup action consistent with WAC 173-340-360, but was developed under the federally overseen CERCLA cleanup.

Therefore, Ecology is basing post-closure permit requirements for the 183-H on: the standing commitment to corrective action for groundwater, the RI/FS to support a final remedy decision for 100-H Area, and unit-specific satisfaction of Resource Conservation and Recovery Act (RCRA) groundwater protection standards. These requirements include:

- Continuing post-closure care in accordance with this permit (primarily based on the previously approved plan for post-closure care).
- Continuing to coordinate the current and anticipated future remedial actions under CERCLA.
- Incorporation of information from the RI/FS.
- Conducting RCRA groundwater monitoring in accordance with this permit.

POST-CLOSURE PLAN

Condition VI.2.B.1 requires the USDOE to comply with the requirements of the Post-closure Plan in Addendum H. Condition VI.2.B.2 requires the USDOE to submit a detailed plan for a final cover that complies with the requirements of WAC 173-303-650(6)(a)(ii) within 60 days of the issuance of this permit.

GROUNDWATER MONITORING REQUIREMENTS

Condition VI.2.C.1 requires the USDOE to conduct post-closure groundwater monitoring of the 183-H Solar Evaporator Basins in accordance with Addendum D. Condition VI.2.C.2 requires the USDOE to submit a revised groundwater monitoring plan updating the monitoring system of wells 90 days after the effective date of this permit.

GENERAL WASTE MANAGEMENT STANDARDS

Condition VI.2.D requires the USDOE to conduct all waste analysis according to the approved sampling and analysis plan in Addendum D.

RECORDKEEPING AND REPORTING

Condition VI.2.E.1 requires the USDOE to follow the record keeping requirements as required in Permit Condition II.I.2.

SECURITY

Condition VI.2.F requires the USDOE comply with Addendum E and to post signs at public access points to the 183-H Solar Evaporator Basins visible from 7.6 meters and visible from all angles of approach.

INSPECTIONS

Condition VI.2.G requires the USDOE to perform inspections in accordance with Addendum H.

TRAINING PLAN

Condition VI.2.H requires the USDOE to comply with the training requirements in Permit Condition II.C and Permit Attachment 5.

CORRECTIVE ACTION

Conditions VI.2.I require the USDOE to conduct corrective action in accordance with the Corrective Action Plan in Addendum K. The USDOE is required to submit a revised Corrective Action Plan within 90 days from the effective date of this permit.

REQUESTED VARIANCES OR ALTERNATIVES

There are no requested variances or alternatives for 183-H SEB.

STATE ENVIRONMENTAL POLICY ACT (SEPA)

The SEPA determination for this unit is in the Hanford-Wide Permit Fact Sheet.

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